

ABSTRACTAPPARATUS AND METHOD FOR ELECTRON BEAM IRRADIATION HAVING  
5 IMPROVED DOSE UNIFORMITY RATIO

The present invention is related to a method and apparatus of radiation processing of a product package in a device having a radiation source, a collimator having  
10 a variable aperture, and a turntable, said radiation processing resulting in a point in the product package where the dose is minimal ( $D_{\min}$  point) and a point in said product package where the dose is maximal ( $D_{\max}$  point) comprising the steps of:

- 15 - determining a first value of the collimator aperture, by increasing said aperture from a small value, where the  $D_{\max}$  point is located near the centre of the product package, up to a value where the  $D_{\max}$  point moves near to the centre of a small side of said package's rectangular  
20 horizontal cross-section;
- determining a second value of the collimator aperture, by further increasing the collimator aperture up to a point where the  $D_{\min}$  point moves from a point near the corner of the product package to the centre of said  
25 package;
- processing said package with radiation, the collimator aperture being kept at a constant value comprised between said first and said second value, the turntable being rotated at a variable speed.

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(Fig. 5)